

WHAT IS CLAIMED IS:

1. A communication terminal connected to a service provider for providing services and to a look-up service in which service objects defining the services of the service provider are registered, via a network, the communication terminal using the services of the service provider by using the service objects, the communication terminal comprising:

5 look-up service search means for searching the 10 look-up service in the network;

15 first acquisition means for acquiring, if said look-up service search means can search the look-up service, a desired service object by checking whether the desired service object is registered in the searched look-up service;

20 transmission request notification means for issuing, if said look-up service search means cannot search the look-up service, a transmission request notification to the service provider in the network via the network in order to request the service provider to transmit a service object; and

25 second acquisition means responsive to the transmission request notification from said transmission request notification means for acquiring a service object transmitted from the service provider without involvement of the look-up service.

2. A communication terminal according to claim 1,  
wherein the service provider responds to a multi cast  
notification and transmits a service object of the  
service provider to a transmission originating site of  
5 the multi cast notification in order to register the  
service object in the transmission originating site.

3. A communication terminal according to claim 2,  
wherein the transmission request notification by said  
10 transmission request notification means is performed by  
issuing the multi cast notification to the network.

4. A communication terminal according to claim 2,  
wherein the look-up service issues the multi cast  
15 notification to the network, and registers the service  
object in response to a request from the service  
provider responding to the multi cast notification.

5. A communication terminal according to claim 3,  
20 wherein another client is connected to the network, and  
responds to the multi cast notification to request a  
transmission site of the multi cast notification to  
search a desired service; and  
wherein the communication terminal further  
25 comprises rejection means for rejecting a service  
search request from the other client.

6. A communication terminal according to claim 1,  
wherein said second acquisition means includes service  
object reception means for receiving a service object  
transmitted from the service provider without  
5 involvement of the look-up service and filtering means  
for acquiring a desired service object by selecting  
from service objects received by said service object  
reception means.

10 7. A communication terminal according to claim 6,  
wherein said filtering means deletes a service object  
other than the desired service object, among the  
service objects received by said service object  
reception means.

15 8. A communication terminal according to claim 1,  
wherein the service object includes an agent object  
which is program codes used for using each service of  
the service provider by the communication terminal, and  
20 attribute information of the service.

9. A service providing system in which a service  
provider for providing services, a look-up service in  
which service objects defining the services of the  
25 service provider are registered, and a communication  
terminal using the services of the service provider by  
using the service objects are connected via a network,

wherein the communication terminal comprises:

look-up service search means for searching the look-up service in the network;

first acquisition means for acquiring, if said  
5 look-up service search means can search the look-up  
service, a desired service object by checking whether  
the desired service object is registered in the  
searched look-up service;

transmission request notification means for  
10 issuing, if said look-up service search means cannot  
search the look-up service, a transmission request  
notification to the service provider in the network via  
the network in order to request the service provider to  
transmit a service object; and

15 second acquisition means responsive to the  
transmission request notification from said  
transmission request notification means for acquiring a  
service object transmitted from the service provider  
without involvement of the look-up service.

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10. A service use method of using a service of a service provider by using a service object, for a communication terminal connected to the service provider for providing services and to a look-up service in which service objects defining the services of the service provider are registered, via a network, the service use method comprising:

a look-up service search step of searching the look-up service in the network;

5 a first acquisition step of acquiring, if said look-up service search step can search the look-up service, a desired service object by checking whether the desired service object is registered in the searched look-up service;

10 a transmission request notification step of issuing, if said look-up service search step cannot search the look-up service, a transmission request notification to the service provider in the network via the network in order to request the service provider to transmit a service object; and

15 a second acquisition step responsive to the transmission request notification in said transmission request notification step for acquiring a service object transmitted from the service provider without involvement of the look-up service.

20 11. A service use method according to claim 10, wherein the service provider responds to a multi cast notification and transmits a service object of the service provider to a transmission originating site of the multi cast notification in order to register the service object in the transmission originating site.

25 12. A service use method according to claim 11,

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wherein the transmission request notification by said transmission request notification step is performed by issuing the multi cast notification to the network.

5           13. A service use method according to claim 11, wherein the look-up service issues the multi cast notification to the network, and registers the service object in response to a request from the service provider responding to the multi cast notification.

10           14. A service use method according to claim 12, wherein another client is connected to the network, and responds to the multi cast notification to request a transmission site of the multi cast notification to search a desired service; and

              wherein the service use method further comprises a rejection step of rejecting a service search request from the other client.

20           15. A service use method according to claim 10, wherein said second acquisition step includes:

              a service object reception step of receiving a service object transmitted from the service provider without involvement of the look-up service and a filtering step of acquiring a desired service object by selecting from service objects received in said service object reception step.

16. A service use method according to claim 15,  
wherein said filtering step deletes a service object  
other than the desired service object, among the  
service objects received in said service object  
5 reception step.

17. A service use method according to claim 10,  
wherein the service object includes an agent object  
which is program codes used for using each service of  
10 the service provider by the communication terminal, and  
attribute information of the service.

18. A storage medium storing a computer readable  
program for using a service of a service provider by  
15 using a service object, for a communication terminal  
connected to the service provider for providing  
services and to a look-up service in which service  
objects defining the services of the service provider  
are registered, via a network, said a computer readable  
20 program comprising codes for executing steps including:  
a look-up service search step of searching the  
look-up service in the network;

25 a first acquisition step of acquiring, if said  
look-up service search step can search the look-up  
service, a desired service object by checking whether  
the desired service object is registered in the  
searched look-up service;

a transmission request notification step of issuing, if said look-up service search step cannot search the look-up service, a transmission request notification to the service provider in the network via 5 the network in order to request the service provider to transmit a service object; and

10 a second acquisition step responsive to the transmission request notification in said transmission request notification step for acquiring a service object transmitted from the service provider without involvement of the look-up service.

19. A computer readable program for using a service of a service provider by using a service 15 object, for a communication terminal connected to the service provider for providing services and to a look-up service in which service objects defining the services of the service provider are registered, via a network, the program comprising codes for realizing 20 steps which comprise:

a look-up service search step of searching the look-up service in the network;

25 a first acquisition step of acquiring, if said look-up service search step can search the look-up service, a desired service object by checking whether the desired service object is registered in the searched look-up service;

a transmission request notification step of  
issuing, if said look-up service search step cannot  
search the look-up service, a transmission request  
notification to the service provider in the network via  
5 the network in order to request the service provider to  
transmit a service object; and

a second acquisition step responsive to the  
transmission request notification in said transmission  
request notification step for acquiring a service  
10 object transmitted from the service provider without  
involvement of the look-up service.

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